

REMARKS

In the Office Action, the Examiner rejected claims 1-30 under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application 20050223348 by Frank et al. ("Frank"). The Examiner also provisionally rejected claims 1-30 on non-statutory double patenting grounds over claims 1-20 of co-pending application No. 10/443,315.

In this Amendment, Applicant has amended claims 1-4, 9-11, 19-22, and 25-27. Applicant has added claim 31. Applicant has not canceled any claims. Accordingly, claims 1-31 will be pending after entry of this Amendment.

I. REJECTIONS OF CLAIMS 1-8 UNDER U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 1-8 under 35 U.S.C. § 102(e) as being anticipated by Frank. Claims 2-8 are dependent directly or indirectly on independent claim 1. As amended, claim 1 recites a method of defining a route that connects a start geometry and a target geometry. The route is made of one or more connected route segments. The method performs a path search to produce a set of connected route-segment expansions between the start and target geometries. During the path search, the method identifies from a first route-segment expansion a second route-segment expansion and a third route-segment expansion, discards the second route-segment expansion because connecting the first route-segment expansion and second route-segment expansion would create an acute angle in the route, and maintains the third route-segment expansion because connecting the first route-segment expansion and the third route-segment expansion would not create an acute angle in the route. Applicant does not surrender any equivalents to any amended limitation.

Applicant respectfully submits that Frank does not disclose, teach, or even suggest such a method. For at least the following reasons, Frank does not anticipate the independent claim. For instance, Applicant respectfully submits that Frank does not check for acute angles while defining the route, nor does Frank identify two route-segment expansions that start from a common route-segment expansion, keep the route-segment expansion that doesn't form an acute angle, and discard the one that does.

Frank discloses taking an already existing route and checking for violations of design rules. In contrast, claim 1 discloses checking for acute angles during the defining of the route and excluding any route-segment expansions that would form acute angles. Accordingly, Applicant respectfully submits that Frank does not render claim 1 unpatentable. As claims 2-8 are dependent, directly or indirectly on claim 1, Applicant respectfully submits that claims 2-8 are patentable over Frank for at least the same reasons that claim 1 is. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the § 102(e) rejection of claims 1-8.

II. REJECTIONS OF CLAIMS 9-18 UNDER 35 U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 9-18 under 35 U.S.C. § 102(e) as being anticipated by Frank. Claims 10-18 are dependent directly or indirectly on independent claim 9. As amended, claim 9 recites a method of defining a route that connects a start geometry

and a target geometry. The route is made of one or more connected route segments. During the routing, the method i) produces a set of route-segment expansions including at least two route-segment expansions. The method ii) tests a route-segment expansion to determine whether it would create an acute angle in the route. The method iii) prevents the tested route-segment expansion from being included in the route between the start and target geometries if the tested route-segment expansion would produce an acute angle in the route, and iv) includes the tested route-segment expansion in the route between the start and target geometries if the tested route-segment expansion would not produce an acute angle in the route. The method then iteratively repeats steps i), ii), iii), and iv). Applicant does not surrender any equivalents to any amended elements.

Applicant respectfully submits that Frank does not disclose, teach, or even suggest such a method. For at least the following reason, Frank does not anticipate the independent claim. For instance, Applicant respectfully submits that Frank does not check for acute angles during the routing.

Frank discloses taking an already existing route and checking for violations of design rules. In contrast, claim 9 discloses checking for and excluding acute angles from a route during the initial creation of the route. Accordingly, Applicant respectfully submits that Frank does not render claim 9 unpatentable. As claims 10-18 are dependent, directly or indirectly on claim 9, Applicant respectfully submits that claims 10-18 are patentable over Frank for at least the same reasons that claim 9 is. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the § 102(e) rejection of claims 9-18.

III. REJECTIONS OF CLAIMS 19-24 UNDER U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 19-24 under 35 U.S.C. § 102(e) as being anticipated by Frank. Claims 20-24 are dependent directly or indirectly on independent claim 19. As amended, claim 19 recites a computer readable medium that stores a computer program containing instructions for defining a route that connects a start geometry and a target geometry. The route is made of one or more connected route segments. The instructions perform a path search to produce a set of connected route-segment expansions between the start and target geometries. During the path search, the instructions identify, from a first route-segment, expansion, a second route-segment expansion and a third route-segment expansion, discard the second route-segment expansion because connecting the first route-segment expansion and second route-segment expansion would create an acute angle in the route, and maintain the third route-segment expansion because connecting the first route-segment expansion and the third route-segment expansion would not create an acute angle in the route. Applicant does not surrender any equivalents to any amended limitation.

Applicant respectfully submits that Frank does not disclose, teach, or even suggest such a computer readable medium. For at least the following reason, Frank does not check for acute angles while defining the route, nor does Frank identify two route-segment expansions that start from a common route-segment expansion, keep the route-segment expansion that doesn't form an acute angle, and discard the one that does.

Frank discloses taking an already existing route and checking for violations of design rules. In contrast, claim 19 discloses checking for acute angles during the defining of the route

and excluding any route-segment expansions that would form acute angles. Accordingly, Applicant respectfully submits that Frank does not render claim 19 unpatentable. As claims 20-24 are dependent, directly or indirectly on claim 19, Applicant respectfully submits that claims 20-24 are patentable over Frank for at least the same reasons that claim 19 is. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the § 102(e) rejection of claims 19-24.

IV. REJECTIONS OF CLAIMS 25-30 UNDER 35 U.S.C. § 102(e)

In the Office Action, the Examiner rejected claims 25-30 under 35 U.S.C. § 102(e) as being anticipated by Frank. Claims 26-30 are dependent directly or indirectly on independent claim 25. As amended, claim 25 recites a computer readable medium that stores a computer program for routing a route that connects a start geometry and a target geometry. The route is made of one or more connected route segments, the computer program includes sets of instructions for, during the routing: i) producing a set of route-segment expansions including at least two route-segment expansions; ii) testing a route-segment expansion to determine whether it would create an acute angle in the route; iii) preventing the tested route-segment expansion from being included in the route between the start and target geometries if the tested route-segment expansion would produce an acute angle in the route; iv) including the tested route-segment expansion in the route between the start and target geometries if the tested route-segment expansion would not produce an acute angle in the route; and v) iteratively repeating the sets of instructions for i), ii), iii), and iv). Applicant does not surrender any equivalents to any amended elements.

Applicant respectfully submits that Frank does not disclose, teach, or even suggest such a computer readable medium. For at least the following reason, Frank does not anticipate the independent claim. For instance, Applicant respectfully submits that Frank does not check for acute angles during the routing.

Frank discloses taking an already existing route and checking for violations of design rules. In contrast, claim 25 discloses checking for and excluding acute angles from a route during the initial creation of the route. Accordingly, Applicant respectfully submits that Frank does not render claim 25 unpatentable. As claims 26-30 are dependent, directly or indirectly on claim 25, Applicant respectfully submits that claims 26-30 are patentable over Frank for at least the same reasons that claim 25 is. In view of the foregoing, Applicant respectfully requests reconsideration and withdrawal of the § 102(e) rejection of claims 25-30.

V. NEW CLAIM 31

Applicant has added new claim 31. New claim 31 includes the limitation of identifying a plurality of potential path expansions, and eliminating from consideration those potential path expansions that would form an acute angle. As is the case for claims 1, 9, 19, and 25 above, Frank does not anticipate new claim 31. Accordingly, Applicant respectfully requests allowance at the earliest possible date.

VI. PROVISIONAL REJECTION FOR DOUBLE PATENTING

In the Office Action, the Examiner provisionally rejected claims 1-30 on non-statutory double patenting grounds over claims 1-20 of co-pending application No. 10/443,315. Applicant respectfully traverses this provisional rejection and asks that it be withdrawn. Alternatively, Applicant respectfully requests that the rejection be held in abeyance until the other issues of this application have been resolved.

CONCLUSION

In view of the foregoing, it is submitted that all pending claims, namely claims 1-31 are in condition for allowance. Reconsideration of the rejections and objections is requested. Allowance is earnestly solicited at the earliest possible date.

Respectfully submitted,

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